Enforcement/Compliance

PHILLIPS Alaska, Inc.
A Subsidiary of PHILLIPS PETROLEUM COMPANY

Alpine Development Project
Alpine – HSE – ALP 14
P. O. BOX 196860
ANCHORAGE, ALASKA 99519-6860

Telephone 907- 670-4200
Facsimile 907- 670-4778

March 8, 2001

Certified Mail: 7099 3220 0006 2574 2589
Return Receipt Requested

Mr. Tim Pilon
Air Permits Program-Compliance Assurance Group
Alaska Department of Environmental Conservation
610 University Avenue
Fairbanks, AK 99709

RE: Alpine Development Project
Permit No. 0073-AC060
Notification of Test Dates

Dear Mr. Pilon:

Pursuant to Section II.D.4 of the referenced construction permit, Phillips Alaska, Inc. (PAI) is giving notification of plans to conduct source testing of the Alpine Crude Oil Production Heaters (CF-H-31003A or CF-H-31003B) and the Injection Turbine (CF-C-33012-TB) in 10 days (beginning March 20, 2001).

Test procedures for these units were submitted to the Department December 16, 2000. Initial notification of the pending NSPS Performance Test and a request for minor modifications of test methods for the gas compressor were submitted to Mr. Kai Hon Shum of U.S. EPA on February 14, 2001. Initial notification of the crude oil production heaters was provided January 7, 2001.

Should you have any questions or need additional information, please do not hesitate to contact me or my alternate, Thomas Manson, at (907) 670-4200.

Sincerely,

Shannon Donnelly/Thomas Manson
Alpine Environmental Coordinator

Cc:
Kai Hon Shum, US EPA, Region 10

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

Add to ADI ___
Received ✓
Unresolved ___ 9/1

JUL 23 2001

Reply To
Attn Of: OAQ-107

Ms. Shannon Donnelly
Mr. Thomas Manson
Phillips Alaska, Inc.
Alpine Development Project
Alpine - HSE - ALP 14
P.O. Box 196860
Anchorage, Alaska 99519-6860

Re: Modification to Test Method 20 for NSPS GG Turbines

Dear Ms. Donnelly and Mr. Manson:

The United States Environmental Protection Agency (EPA) has reviewed Phillips Alaska, Inc., July 13, 2001, letter that requested modifications to Reference Method 20 for initial performance tests of a turbine subject to NSPS Subpart GG, at Alpine Development Project, Alaska. As stated below, EPA approves of this request for use of a multi-hole probe as a modification to Reference Method 20.

Pursuant to 40 C.F.R. §60.335, Phillips Alaska, Inc., is required to conduct a performance test using Method 20 "Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines" (40 C.F.R. Part 60, Appendix A). Specifically, Phillips Alaska, Inc., proposed to perform the oxygen traverse required by Method 20 procedures in Section 6.1.2, but then complete the performance test using a single multi-hole sample probe installed through the port which exhibited the lowest average diluent (oxygen) concentration in lieu of sampling at the eight (8) individual points of lowest diluent concentration. EPA understands that the multi-hole probe will be designed with eight (8) holes, and the sampling procedure will be consistent with EPA Guideline Document GD-031, "Evaluation Procedure for Multi-hole Sample Probes."

EPA believes that the modified method proposed by Phillips Alaska, Inc., could generate acceptably accurate data as long as the multi-hole probe was designed and conform to the tests specified in EPA Guideline Document GD-031, "Evaluation Procedure for Multi-hole Sample Probes." Therefore, this Phillips Alaska request is approved for the gas turbine, Nuovo Pignone Model No. PGT-10B/2, Serial No. G06204. Please note that a calibrated multi-hole probe is required, and please send the test report, and calibrated test probe results to EPA, when available.

If you have questions concerning this letter, please contact Mr. Harold Scott at (206) 553-1754.

Sincerely,

Douglas E. Hardesty, Manager
Federal and Delegated Air Programs Unit

cc: Jim Baumgartner (ADEC)

bcc: John Pavitt (EPA)
Terry Harrison (EPA)
Source file

g\oaq\Phillips-HSE.wpd

CONCURRENCES						
Initials:	HMS'					
Name:	H. SCOTT	K. SHUM				
Date:	7/23/01	7/23/01				

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

JUL 23 2001

Reply To
Attn Of: OAQ-107

Ms. Shannon Donnelly
Mr. Thomas Manson
Phillips Alaska, Inc.
Alpine Development Project
Alpine - HSE - ALP 14
P.O. Box 196860
Anchorage, Alaska 99519-6860

Re: Modification to Test Method 20 for NSPS GG Turbines

Dear Ms. Donnelly and Mr. Manson:

The United States Environmental Protection Agency (EPA) has reviewed Phillips Alaska, Inc., July 13, 2001, letter that requested modifications to Reference Method 20 for initial performance tests of a turbine subject to NSPS Subpart GG, at Alpine Development Project, Alaska. As stated below, EPA approves of this request for use of a multi-hole probe as a modification to Reference Method 20.

Pursuant to 40 C.F.R. §60.335, Phillips Alaska, Inc., is required to conduct a performance test using Method 20 "Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines" (40 C.F.R. Part 60, Appendix A). Specifically, Phillips Alaska, Inc., proposed to perform the oxygen traverse required by Method 20 procedures in Section 6.1.2, but then complete the performance test using a single multi-hole sample probe installed through the port which exhibited the lowest average diluent (oxygen) concentration in lieu of sampling at the eight (8) individual points of lowest diluent concentration. EPA understands that the multi-hole probe will be designed with eight (8) holes, and the sampling procedure will be consistent with EPA Guideline Document GD-031, "Evaluation Procedure for Multi-hole Sample Probes."

EPA believes that the modified method proposed by Phillips Alaska, Inc., could generate acceptably accurate data as long as the multi-hole probe was designed and conform to the tests specified in EPA Guideline Document GD-031, "Evaluation Procedure for Multi-hole Sample Probes." Therefore, this Phillips Alaska request is approved for the gas turbine, Nuovo Pignone Model No. PGT-10B/2, Serial No. G06204. Please note that a calibrated multi-hole probe is required, and please send the test report, and calibrated test probe results to EPA, when available.

If you have questions concerning this letter, please contact Mr. Harold Scott at (206) 553-1754.

Sincerely,

Douglas E. Hardesty, Manager
Federal and Delegated Air Programs Unit

cc: Jim Baumgartner (ADEC)

If you have questions concerning this letter, please contact Mr. Harold Scott at (206) 553-1754.

Sincerely,

Douglas E. Hardesty, Manager
Federal and Delegated Air Programs Unit

cc: Jim Baumgartner (ADEC)

bcc: John Pavitt (EPA)
Terry Harrison (EPA)
Source file

g\oaq\Phillips-HSE.wpd

CONCURRENCES						
Initials:	HMS'					
Name:	H. SCOTT	K. SHUM				
Date:	7/23/01	7/23/01				

If you have questions concerning this letter, please contact Mr. Harold Scott at (206) 553-1754.

Sincerely,

Douglas E. Hardesty, Manager
Federal and Delegated Air Programs Unit

cc: Jim Baumgartner (ADEC)

bcc: John Pavitt (EPA)
Terry Harrison (EPA)
Source file

g\oaq\Phillips-HSE.wpd

CONCURRENCES						
Initials:	HM S'					
Name:	H. SCOTT	K. SHUM				
Date:	7/23/01	7/23/01				

PHILLIPS Alaska, Inc.
A Subsidiary of PHILLIPS PETROLEUM COMPANY

Alpine Development Project
Alpine – HSE – ALP 14
P. O. BOX 196860
ANCHORAGE, ALASKA 99519-6860

Telephone 907- 670-4200
Facsimile 907- 670-4778

Tom Manson will have Jeff Alger (SECOR) call me re multi-hole probe use.
7/16/01.

Certified Mail: 7000 1670 0007 0391 9936
Return Receipt Requested

Mr. Kai Hon Shum
US Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, WA 98101

July 13, 2001

RE: Notification of NSPS Performance Test and Request for Minor Modifications of Test Method – Alpine Development Project – Secondary Generator (CF-G-70002)

Dear Mr. Shum:

Phillips Alaska, Inc. (PAI) operates a stationary gas turbine (CF-G-70002) that provides stand-by power generation at the Alpine Development Project (Alpine). Alpine is located in the Colville River Delta approximately 35 miles west of the Kuparuk River Unit (KRU) on the North Slope of Alaska. The turbine, which was commissioned (first fired) on February 23, 2001, is subject to federal New Source Performance Standards (40 CFR Part 60, Subpart GG). An initial performance test is tentatively scheduled for the week of August 13, 2001.

PAI requests U. S. EPA approval of a minor modification to Method 20, *"Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines"* (Appendix A of 40 CFR 60). PAI proposes to perform an oxygen traverse of the exhaust as required by Method 20 procedures (§6.1.2), but then complete the performance run using a single multi-hole sample probe installed through the port which exhibited the lowest diluent (oxygen) concentration. The multi-hole probe will be designed and tested according to EPA Guidance Document GD-031, *"Evaluation Method for Multi-hole Sample Probes"*.

4/7

The subject turbine has a circular stack that is approximately 75 inches in diameter. The sample ports are located outside of the building. Method 20 requires a preliminary oxygen traverse from two sample ports located 90 degrees apart for a total of 24 sample points (12 points per port). The unique circumstances of testing on the North Slope of Alaska would require the use of a straight sample probe approximately 7 feet long. During the majority of the sampling, a conventional probe would be exposed to the cold ambient air, requiring heat trace and insulation to prevent condensation and freeze-up. In addition, the insulation and heat trace that would be required for a conventional probe would deteriorate rapidly due to exposure to the stack exhaust temperature and velocity.

The use of a multi-hole probe will eliminate the exposure of the stack gas to cold ambient conditions experienced on the North Slope of Alaska and reduce the time to perform the tests at each load condition. During the preliminary oxygen traverse a single point probe with a 90 degree angle would be installed in each of the two ports and rotated through a 180 degree arc to obtain the 24 points required by Method 20. The multi-hole probe would be installed through the port with the lowest measured oxygen concentration for the remainder of the performance test.

PAI requests U.S. EPA approval of the use of the multi-hole probe for the performance test of the subject turbine at the Alpine facility. EPA has previously approved this technique as a minor deviation to Method 20 in a letter dated December 2, 1994 from Mr. Jim McCormick of EPA to Mr. Mark Major of ARCO Alaska (now Phillips). A copy of the letter has been attached for your convenience. Your timely review of our request would be greatly appreciated. If you have any questions or require additional information, please do not hesitate to contact Shannon Donnelly or Tom Manson at (907) 670-4200 or via e-mail at N1508@ppco.com.

Thank you for your consideration.

Sincerely,

Shannon Donnelly/Thomas Manson
Alpine Environmental Coordinator

cc: J. Baumgartner – ADEC
T. Pilon - ADEC
J. Alger – SECOR International, Inc.

5/7

EPA

DEC 0 2 1994

Reply to
Attn of: AT-082

Mark Major
Senior Permit Coordinator, Prudhoe Bay Operations
ARCO Alaska, Inc.
Post Office Box 100360
Anchorage, AK 99510-0360

Dear Mr. Major:

This letter is in response to your request of November 23, 1994, for approval of a minor methodology change to Reference Method 20 of 40 C.F.R. Part 60 Appendix A. Your proposal consisted of using a multi-hole probe for sampling the exhaust gases from the stationary gas turbine subject to the New Source Performance Standards (NSPS). EPA Region 10 approves the use of the multi-hole probe for sampling during the source test of the General Electric Frame 6 stationary gas turbine located at the central gas facility in the Prudhoe Bay unit subject to the following condition. A conventional single-hole probe shall be used to conduct the oxygen traverse of the stack in accordance with Reference Method 20 procedures outlined in section 6.1.2 prior to sampling with the multi-hole probe.

Authorization has been delegated to the Environmental Protection Agency (EPA) regional offices to approve only minor modifications to test methods for the NSPS. Based on the information you supplied to John Kuonan, of my staff, and his conversations with Terry Harrison of EPA's Office of Air Quality Planning and Standards, your request constitutes a minor test method modification. Therefore, Region 10 has the authority to approve your request.

Additionally, several deficiencies were noted in the November 10-11, 1993, source test report and are itemized below. Please be sure to include this information in the report for the December 1994 source test.

1. No data were presented measuring either the SO_2 emissions from the turbines or H_2S content of the fuel as required by 40 C.F.R. § 60.335.

2. The interference response data required by Paragraph 3.2 of Reference Method 20 were omitted from the report.

6/7

PHILLIPS Alaska, Inc.
A Subsidiary of PHILLIPS PETROLEUM COMPANY

Alpine Development Project
Alpine – HSE – ALP 14
P. O. BOX 196860
ANCHORAGE, ALASKA 99519-6860

Telephone 907- 670-4200
Facsimile 907- 670-4778

Certified Mail: 7000 1670 0007 0391 9936
Return Receipt Requested

Mr. Kai Hon Shum
US Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, WA 98101

July 13, 2001

RE: Notification of NSPS Performance Test and Request for Minor Modifications of Test Method – Alpine Development Project – Secondary Generator (CF-G-70002)

Dear Mr. Shum:

Phillips Alaska, Inc. (PAI) operates a stationary gas turbine (CF-G-70002) that provides stand-by power generation at the Alpine Development Project (Alpine). Alpine is located in the Colville River Delta approximately 35 miles west of the Kuparuk River Unit (KRU) on the North Slope of Alaska. The turbine, which was commissioned (first fired) on February 23, 2001, is subject to federal New Source Performance Standards (40 CFR Part 60, Subpart GG). An initial performance test is tentatively scheduled for the week of August 13, 2001.

PAI requests U. S. EPA approval of a minor modification to Method 20, *"Determination of Nitrogen Oxides, Sulfur Dioxide, and Diluent Emissions from Stationary Gas Turbines"* (Appendix A of 40 CFR 60). PAI proposes to perform an oxygen traverse of the exhaust as required by Method 20 procedures (§6.1.2), but then complete the performance run using a single multi-hole sample probe installed through the port which exhibited the lowest diluent (oxygen) concentration. The multi-hole probe will be designed and tested according to EPA Guidance Document GD-031, *"Evaluation Method for Multi-hole Sample Probes"*.

The subject turbine has a circular stack that is approximately 75 inches in diameter. The sample ports are located outside of the building. Method 20 requires a preliminary oxygen traverse from two sample ports located 90 degrees apart for a total of 24 sample points (12 points per port). The unique circumstances of testing on the North Slope of Alaska would require the use of a straight sample probe approximately 7 feet long. During the majority of the sampling, a conventional probe would be exposed to the cold ambient air, requiring heat trace and insulation to prevent condensation and freeze-up. In addition, the insulation and heat trace that would be required for a conventional probe would deteriorate rapidly due to exposure to the stack exhaust temperature and velocity.

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PAI requests U.S. EPA approval of the use of the multi-hole probe for the performance test of the subject turbine at the Alpine facility. EPA has previously approved this technique as a minor deviation to Method 20 in a letter dated December 2, 1994 from Mr. Jim McCormick of EPA to Mr. Mark Major of ARCO Alaska (now Phillips). A copy of the letter has been attached for your convenience. Your timely review of our request would be greatly appreciated. If you have any questions or require additional information, please do not hesitate to contact Shannon Donnelly or Tom Manson at (907) 670-4200 or via e-mail at N1508@ppco.com.

Thank you for your consideration.

Sincerely,

Shannon Donnelly/Thomas Manson
Alpine Environmental Coordinator

cc: J. Baumgartner – ADEC
T. Pilon - ADEC
J. Alger – SECOR International, Inc.

FROM: AAI HSET
Environmental Protection Agency
FAX NO.: 907 265 6216
1200 Sixth Avenue
Seattle WA 98101
01-26-99 22:04 P.04

EPA

DEC 0 2 1994

Reply to
Attn of: AT-082

Mark Major
Senior Permit Coordinator, Prudhoe Bay Operations
ARCO Alaska, Inc.
Post Office Box 100360
Anchorage, AK 99510-0360

Dear Mr. Major:

This letter is in response to your request of November 23, 1994, for approval of a minor methodology change to Reference Method 20 of 40 C.F.R. Part 60 Appendix A. Your proposal consisted of using a multi-hole probe for sampling the exhaust gases from the stationary gas turbine subject to the New Source Performance Standards (NSPS). EPA Region 10 approves the use of the multi-hole probe for sampling during the source test of the General Electric Frame 6 stationary gas turbine located at the central gas facility in the Prudhoe Bay unit subject to the following condition. A conventional single-hole probe shall be used to conduct the oxygen traverse of the stack in accordance with Reference Method 20 procedures outlined in section 6.1.2 prior to sampling with the multi-hole probe.

Authorization has been delegated to the Environmental Protection Agency (EPA) regional offices to approve only minor modifications to test methods for the NSPS. Based on the information you supplied to John Keenan, of my staff, and his conversations with Terry Harrison of EPA's Office of Air Quality Planning and Standards, your request constitutes a minor test method modification. Therefore, Region 10 has the authority to approve your request.

Additionally, several deficiencies were noted in the November 10-11, 1993, source test report and are itemized below. Please be sure to include this information in the report for the December 1994 source test.

1. No data were presented measuring either the SO_2 emissions from the turbines or H_2S content of the fuel as required by 40 C.F.R. § 60.335.

2. The interference response data required by Paragraph 3.2 of Reference Method 20 were omitted from the report.

3. The sample line temperature was not included in the report, as required by Paragraph 4.1.2 of Reference Method 20.

4. Information on the oxygen calibration gas was not included in the report.

If you have any questions regarding either the approval of your request or the information highlighted above, please call John Keenan at (206) 553-1817.

Sincerely,

Jim McCormick, Director
Air & Toxics Division

cc: Jim Greaves, ADEC/PCRO

FAX

Date 7-9-2001

Number of pages including cover sheet **2**

TO: Kai Hon Shum
US EPA

Phone *(206)553-2117*
Fax *(206)553-0110*

FROM: *Tom Manson*
Alpine Development Project.
Mail Drop –ALP 14
P.O. Box 196860
Anchorage, AK 99519
Or Pouch
Phone *(907) 670-4200*
Fax *(907) 670-4778*

CC:

REMARKS: ☐ *Urgent* ☒ *For your review* ☐ *Reply ASAP* ☐ *Please Comment*

PHILLIPS Alaska, Inc.
A Subsidiary of PHILLIPS PETROLEUM COMPANY

Alpine Development Project
Alpine – HSE – ALP 14
P. O. BOX 196860
ANCHORAGE, ALASKA 99519-6860

Telephone 907- 670-4200
Facsimile 907- 670-4778

Certified Mail: 7000 1670 0007 0391 8533
Return Receipt Requested

Ms. Rusty Gesin
Air Permits Program-Compliance Assurance Group
Alaska Department of Environmental Conservation
610 University Avenue
Fairbanks, AK 99709

July 9, 2001

RE: Alpine Development Project
Permit No. 0073-AC060
Emission Source Test Procedures

Dear Ms. Gesin:

Section X.B.1.a of the Alpine Air Quality Construction Permit No. 0073-AC060 requires that a source test best conducted on turbines CF-G-70001, CF-G-70002, and CF-C33012-TB at a time period other than January, February, or March. Phillips Alaska, Inc. (PAI) plans to conduct test on these sources as well as on one of the crude oil production heaters, CF-H-31003A or CF-H-31003B, in 30 days.

Pursuant to Condition II.D.3 of the referenced construction permit, two copies of the source test protocol covering these turbines are being submitted under separate cover by SECOR International Incorporated (SECOR) our contractor selected for performing the testing. The test protocol has been revised from the original protocol submitted to your office on December 16, 2000 to include the use of multi-hole probes. The crude oil production heater test will follow the protocols previously submitted to the Alaska Department of Environmental Conservation.

The tentative schedule is for SECOR to arrive on-site at Alpine on August 9, 2001 and complete the set-up of the analyzers and sampling train. Testing is scheduled to begin August 10, 2001.

Should you have any questions or need additional information, please do not hesitate to contact me or my alternate, Shannon Donnelly, at (907) 670-4200.

Sincerely,

Thomas Manson

Shannon Donnelly/Thomas Manson
Alpine Environmental Coordinator

cc: Kai Hon Shum, US EPA, Region 10
T. Pilon, ADEC
J. Alger, SECOR

Terry Harrison
07/18/2001 06:20 AM

To: Harold Scott/R10/USEPA/US@EPA

cc:
Subject: Review of PAI minor mod to method 20

Harold,
my comments on your draft letter
2nd paragraph, last sentence " Specifically, Phillips Alaska, Inc. proposed to perform the oxygen traverse required by method 20 procedures in Section 6.1.2 but then complete the performance test using a single multi-hole sample probe installed through the port which exhibited the lowest average diluent (oxygen) concentration in lieu of sampling at the 8 individual points of lowest diluent concentration. The multi-hole probe will be designed with ??? holes, design flow rate determined, and equal flow rate from the holes confirmed following the procedures described in Guideline Document GD 031...."
(You may want to ask them to clarify the # of holes they plan to put in the probe)

3rd paragraph last sentence
Do you mean the GD 31 results (which should be a part of the test report anyway) or the test report?

Terry Harrison
USEPA
Emission Measurement Center, MD-19
RTP NC 27711
919.541.5233 (tel)
919.541.1039 (fax)
harrison.terry@epa.gov
EMC Mission: Advance environmental protection through leadership in effective emission measurement.